nate it with filthy rancorous products. Now, when pure clean water is made to shower upon or over those substances, it throws down, condenses, or disengages from the atmosphere the effluvia and stinking odours as they rise; and this is remarkably evinced during the time rain is falling, where there are lay-stalls, or where filth has been deposited, for the air at such places being loaded with foul odours, the showers or drops of water, as they fall, free the atmosphere of the deleterious and nauseous compounds, making the air feel quite fresh.

In the first place, *all* the drains and gulleys should be effectually trapped, and the gulleys should be made entirely of cast-iron, with a strong moveable grating fitting in at the top of each of them, for the purpose of cleansing it out, having also a deep wide box at bottom, with a nozel formed at the outer side opposite the pavement for the water to flow through, and that side descending in the box to about one and a half or two inches below the bottom of the nozel, which should fit into a good strong Stourbridge clay pipe leading directly to the sewer, in the wall of which the pipe should have a circular elbow for the purpose of discharging the water in the direction of the stream flowing down the sewer. The discharging ends of the drains should also be made in the same manner; their *traps* being placed in convenient and accessible situations, and always under special supervision, as, indeed, all drains ought to be, in the same manner as the sewers are.

Now, after all the gulleys and drains had been properly trapped, shafts should be formed over the sewers, about three or four feet long, and the same width as the sewers, and in such situations as found most convenient. These shafts should be made to taper regularly upwards to about twelve inches wide and twenty-four inches long at top, on which a good strong, deep, cast-iron grating should be fixed, level with the carriage-way; or these shafts could be made of sufficient size to admit a man to descend and ascend through them, small stirrup irons being fixed in the brickwork. In the longitudinal sides of the shaft, and just above the top of the crown of the sewer, I would have fixed, flush with the walls, two small cast-iron cisterns, one at each side; they should be about a foot high, two inches wide inside, and the same length as the shaft at this part. From the water-main in the street a small pipe should be laid, communicating with the cisterns, the front faces of which should be perforated with one or more tiers of very small holes, about one-tenth of an inch diameter, inclining in an upward direction.

Now, it is obvious that the cool fluid, while flowing into the cisterns from the water main, would pass through the perforations in small streams or jets, and as they descend would strike the opposite sides of the sewer just above the crown of the arch, and the sewer at this part should be built with good, hard, sound, and durable stocks, laid, and rendered inside with nearly all cement. These jets would appear from above like a series of thin bars, or a grating of water lying across the shaft, and they should be arranged so that there be from a quarter to half-an-inch space between each of them. These little streams of pure cold water would detach from the currents of air as they issued upwards from the sewer, the effluvia and foul gases with which they would be loaded, and thus the air escaping into the streets would be nearly purified of its deleterious contents by this simple process. From the jets being exceedingly small, the consumption of water at each shaft would be very little, and it would answer a further purpose of keeping the sewers free from deposits of matter; the water mains should always be charged, as probably in a few years they will be. Several modifications of this system present themselves, which experiment and practice would rectify.

(To be continued.)

BATHS FOR THE WORKING CLASSES IN EDINBURGH.—A correspondent sends us the following statement: — "Some thousand pounds were some time ago subscribed for the above purpose, ground was purchased, and the foundation-stone laid with great ceremony. The ground has now been sold, and all idea of the baths abandoned."—*Scotsman.* —[We should be glad to learn the cause of this proceeding.]

FOREIGN ARCHITECTURAL INTELLIGENCE.

The "Archæological Society"—of Rome. This seems a year of epidemics with this sort of societies. That of Rome has been, of late, in a state bordering on disruption. The secretary, *P. C. Visconti*, had first become embroiled in a lawsuit, on account of some share transactions for the acquisition of antiquities, and another antiquary of distinction, Mr. Achilles Genarelli, had received orders to decide thereon. As the judicial press of Rome is not under censorship, Mr. G. seasoned his dictum with some unpleasant phrases—as, indeed, every one perceived, that Mr. Visconti has placed himself in such a position, that he must be dis-placed from the secretaryship. And then came a general medley, in which the president, cardinals, Prince Borghese, etc., are concerned—the details of which, however, cannot interest our readers.

The Dome of St. Peter.—While the old basilica of St. Paul on the *Ostia* road, which had been burnt down some years ago, is daily progressing in its restoration towards pristine beauty and grandeur—the signs of decay and deterioration in St. Peter's are becoming more visible and obvious. It is known, that in succession ten iron rings of the weight of 120,000lbs. had to be employed, to keep together the huge cupola, which exhibited several cracks. Of late, it has also come to light, that the *lanternino*, under the ball of the cross, supported by thirty-two double columns and ornamented by sixteen candelabra — erected by dint of the gold of Spanish America, is full of fissures. It is impossible to think, that lightning has caused this disaster, as this part of the building has been already protected by several conductors under Pius VII. It is rather to be supposed, that the weakening of the supporting columns of the cupola, which have been excavated by staircases and places for the reception of holy relics, has mainly brought on this damage. Several hundreds of hands have been of late employed, to chain and fetter together the lanternino, and thus to prevent, if possible, a further spreading of the cracking.

Influence of State's-protection on Art in France.—The assistance which arts receive from Government in France is spreading its beneficial effects throughout the whole social fabric; collections increase, monuments are restored, amateurs afford occupation, and encouragement to every talent. The liberality of the legislature is first to be adverted to. The secretary of state of the public *culte* has an annual item of one million and a half of francs for the preservation of churches, but last session two millions more were destined for the restoration of Notre Dame at Paris, and 600,000 francs for the building of a vestry, a small Gothic building, which has to be erected aside the old church. When Notre Dame was last viewed by a commission, it appeared that nothing had been done to it for the last two hundred years but to paste over the fissures and crevices with paper. The chambers also vote every year 600,000 francs for "*the preservation of historical monuments*," of whatever kind or period they be. Last session however, the ministry had obtained two millions and a half for building a new front to the church of St. Ouen at Rouen, for restoring the chateau of Blois, and the ancient amphitheatre of Arles. Aside these great restorations, minor ones are equally attended to, and the churches of St. Germain l'Auxerois, St. Mery, and St. Germain, will receive large embellishments of paintings.

The grand discoveries of Mr. Botta, at Niniveh, have been assigned by the king to the galleries of the Louvre, and on this occasion, the whole ground-floor adjoining the square, where Marochetti's statue of the Duke of Orleans is to be placed—has been laid out for a *Greek* museum, containing the sculptures of Sardes and Magnesia; an *Egyptian*, containing the monuments collected by Drovetti, and never before exhibited; to which the *Assyrian*, containing Botta's collection is to be added. The *ateliers* of the artists are becoming peopled by a crowd of well-instructed, zealous men. Many are employed by the Duke de Luynes, who has the great saloon of his château near Versailles, called Dampierre, painted by Mr. Ingrés. The latest work ordered by his Grace is a correct imitation of the statue of Minerva of Phidias as it stood in the Parthenon. It will be executed by Mr. Linart in ivory and metal, and a model of clay is finished according to the description of Pausanias and the researches of M. de Luynes. It will be seven feet high.

The Queen's Subscription towards the Rebuilding of the Cathedral of Cologne.—Although the misconception which exists, it seems, on the Rhine, on this head, is very palpable, a few words may be said to set the matter at rest. A sovereign of Great Britain is *not* absolute, but restricted by constitutional laws and enactments—amongst which a *fixed* civil list is the most prominent. If we come to know, that the income of the King of Bavaria is *one-fifth* of the whole *revenue* of the realm—his Bavarian Majesty may certainly appear at times proportionally liberal. In Austria and Russia there is not even the shadow of a regulation in this respect, and the *sign manual* of the autocrat may call forth millions from out of the caves of the treasury. Moreover, most of the Continental monarchs do a *little* business in the public funds, and there is not an Austrian archduke dying who does not leave twenty millions of florins, or thereabouts. *All* this is *not* the case here. The income of an English sovereign is fixed, while their liberality has to extend over an empire where *the sun never sets*. The subscription of her Majesty the Queen, therefore, was such as it *could* have been, and as it *ought* to have been. Absolute monarchs give orders on their treasury, her Majesty gave out of her own pocket. *Sapienti sat.* J. L.

BALLE KHAL SUSPENSION BRIDGE.

IN our impression of the 30th of August, we announced the fall of this bridge, which had just been erected about four miles from Calcutta. It consisted of a single curve of 250 feet span, with 18 feet of platform. The height of the points of suspension above the plank level, which was equal to the deflection of the chain, was 26 feet or $\frac{1}{9.6}$ the chord line nearly. The angle of suspension was therefore about 19° 51′. The platform was supported by two main chains, one on each side of the bridge, composed of links of round bar iron 1 3-eighths inch in diameter, and 10 feet long. There were 15 of these links resting on the towers at each point of suspension, and from thence at each joint the number was lessened one link till at the centre the sectional area of the chain was reduced to 2 bars 1-eighth inch in diameter. The oblique suspending rods depended from the chain at each joint in pairs, they were a quarter of an inch in diameter, and the angles at which they were attached to the platform varied from 67° 42′ to 10°, becoming more and more acute as they approached nearer the centre of the bridge. There were three pairs of these suspending rods at each point of suspension, which supported 23 feet of the roadway at each end of the bridge, taking the weight thereof immediately to the tower link without affecting the curve of the chains. Thus $250 - 23 \times 2 = 204$ feet = the length of platform supported by the chains. Those who desire further information on the subject will do well to consult the *Mechanics' Magazine*, for October 19, 1844, which contains a detailed account illustrated by plans, sections, and elevations.

NEW BUILDINGS, LONDON DOCKS. — A substantial range of tea warehouses has been recently completed at the west end of the docks, by Messrs. W. Cubitt and Co. They are 300 feet in length, 100 feet wide, and 68 feet high, and capable of stowing and working 120,000 chests of tea. There are five floors rising one above another; the roof of each is supported by strong cast-iron pillars, and each floor is divided into four rooms, well-lighted, and divided by thick walls and double iron doors, rendering the whole completely fire-proof. The vaults below the tea warehouses are appropriated for the reception of wines.

THE NAPOLEON COLUMN AT BOULOGNE.—The Napoleon column at Boulogne has just been terminated: the first stone was laid by Marshal Soult on the 9th November, 1841.

PRICE OF LARCH WOOD.—The Duke of Montrose, last week, sold eight thousand fine larch trees, from his growing timber, at the rate of 1s. 3d. per foot.